

Work Order ID 60715

Tuesday, July 20, 2010 12:48:00 PM



Page 1

Item ID: D212-664-201TRN

Accept



Setup

Start



Revision ID:

Item Name: Crosstube Turning Detail

Stop



Start Date: 7/20/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 7/27/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan:

Date: 10-7-20

Tooling:

Date:

Run

Start



QC:

Date: _____

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr	Revision Nbr
D212-664-241	Rev D

100



MORI SEIKI CNC LATHE LARGE

0.00

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA114
 2-Turn first side as per Folio FA114
 3-File transition lines smooth.

Q.M 10-07-26 0

110



QC1- Inspect dimensions to dimension sheet

0.00

QC

Memo

0.00

Quality Control

Q.M 10-07-26 0

120



MORI SEIKI CNC LATHE LARGE

0.00

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio FA114
 2-File transition lines smooth.
 3-Remove sand and plugs
 4-scribe batch # and part # as per dwg

Q.M 10-07-26 0

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Customer:

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Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
Number

Insp.

Stamp

130



QC1- Inspect dimensions to dimension sheet

0.00

Q11 10-07-26@

QC

Quality Control

140



QC8- Inspect parts - second check

0.00

S100767

Q11 10-07-26@

QC

Quality Control

150



Crosstubes Chemical Conversion

0.00

Q11 10-07-26@

HandFXtube

Hand Finishing Crosstubes

Memo

0.00

Chemical Conversion Coat as per within 24 hours of machining

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Cust Item ID:

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Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC3- Inspect Part Finish

0.00

10/07/28

QC

Quality Control

170



Packaging

0.00

(X) 0 10/07/28

Packaging

Memo

0.00

Packaging

Identify and stock in kanban rack
Location: X-tube cl

180



QC21- Final Inspection - Work Order Release

0.00

10/07/28 JJ

QC

Quality Control

Memo

0.00

10/07/28 JJ

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Picklist Print

Tuesday, July 20, 2010 12:48:06 PM

Page 1

Work Order ID: 60715



Parent Item: D212-664-201TRN



Parent Item Name: Crosstube Turning Detail

Start Date: 7/20/2010

Required Date: 7/27/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec
IPP Rev B 08.04.02 Removed polish EC verified DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6006-129



Manufactured

No

120

Each

41.0000

1

1

Crosstube Material

Location	Loc Qty	Loc Code
LG	41	
23970	2	
26550	14	
34690	11	
38338	14	

07 10-07-2010

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	60715
Description: Crosstube Assembly (205/212 High Aft)	Part Number:	D212-664-241
Inspection Dwg: D212-664-241 Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	0.200	/	vern	Am-04
	R0.063	+/-0.010	R0.063	/	R-G	
	2.990	+0.005/-0.000	2.991	/	vern	
	5.237	+/-0.030	5.237	/	"	
	2.600	+0.005/-0.000	2.605	/	"	
	2.686	+0.005/-0.000	2.681	/	"	
	2.770	+0.005/-0.000	2.775	/	"	
	2.854	+0.005/-0.000	2.859	/	"	
	2.938	+0.005/-0.000	2.943	/	"	
	3.021	+0.005/-0.000	3.026	/	"	
	3.133	+0.005/-0.000	3.137	/	"	
	3.179	+0.005/-0.000	3.184	/	"	
SIDE B	0.200	+/-0.010	0.200	/	vern	Am-04
	R0.063	+/-0.010	R0.063	/	R-G	
	2.990	+0.005/-0.000	2.991	/	vern	
	5.237	+/-0.030	5.237	/	"	
	2.600	+0.005/-0.000	2.605	/	"	
	2.686	+0.005/-0.000	2.691	/	"	
	2.770	+0.005/-0.000	2.775	/	"	
	2.854	+0.005/-0.000	2.859	/	"	
	2.938	+0.005/-0.000	2.943	/	"	
	3.021	+0.005/-0.000	3.026	/	"	
	3.133	+0.005/-0.000	3.137	/	"	
	3.179	+0.005/-0.000	3.184	/	"	
	124.36	+/-0.020	124.360	/	Tape measure	Am-01

Measured by:	G. M	Audited by:	S	Prototype Approval:	N/A
Date:	10.07.26	Date:	10/07/27	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-201)	KJ/JLM	
B	06.03.09	Tolerance for 5.237 was +/-0.001	KJ/JLM	
C	07.05.08	Dwg Rev. updated	KJ/JLM	

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NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

Item	Qty -241	Qty -241B	Part Number	Description
1	X		D212-664-241	CROSSTUBE ASSEMBLY (205/212 HIGH AFT)
2		X	D212-664-241B	CROSSTUBE ASSEMBLY (214 HIGH AFT)
3	1	1	D6006-129	CROSSTUBE
4	2	2	D2940-1	SUPPORT
5	4	4	D3595-063-530	RUBBER CUSHION
6	4	4	MS21920-28	CLAMP (OR MS21920-30)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6006-129
FINISHED LENGTH = 124.362±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF
USING VIBRATING STYLUS.
- 7) WEIGHT: D212-664-241 = 44.2 lbs (PER IIN-D212-664)
D212-664-241B = 44.2 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 5 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING
IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2940-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE
OF D2940-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS
AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-28 CLAMPS (OR -30) WITH D3595-063-530 RUBBER CUSHIONS TO SECURE THE D2940-1
SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE
SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE
SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR
DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND
MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT
HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY

RETURN TO

ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. *60715**BSR-7-20*

RELEASED

R 2009-10-29

D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS: ADD -241B (ZN D4-2, B4-2); REMOVED REF & ADD TOLERANCES (ZN D8-3 & C4-3, C6-3 & A8-3); RELOCATED FLAG #6 PER PAR 08-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -1009 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>PH</i>	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>PH</i>	DRAWING NO.	REV. D
MFG. APPR.	<i>DA</i>	D212-664-241	SHEET 1 OF 4
APPROVED	<i>NP</i>	TITLE	SCALE
DE APPR.	<i>NP</i>	CROSSTUBE ASS'Y (205/212 HI AFT)	NTS
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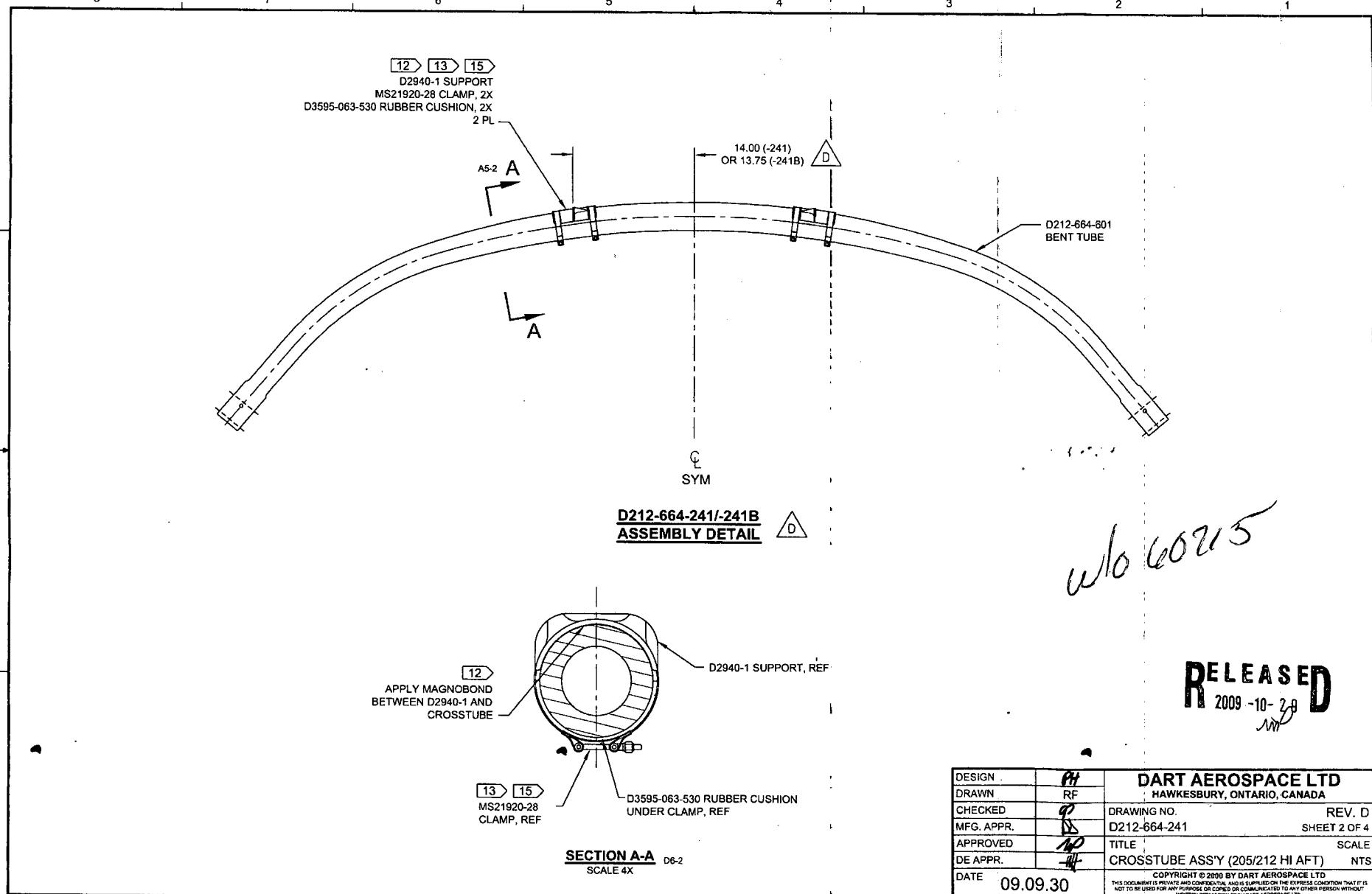
8 7 6 5 4 3 2 1

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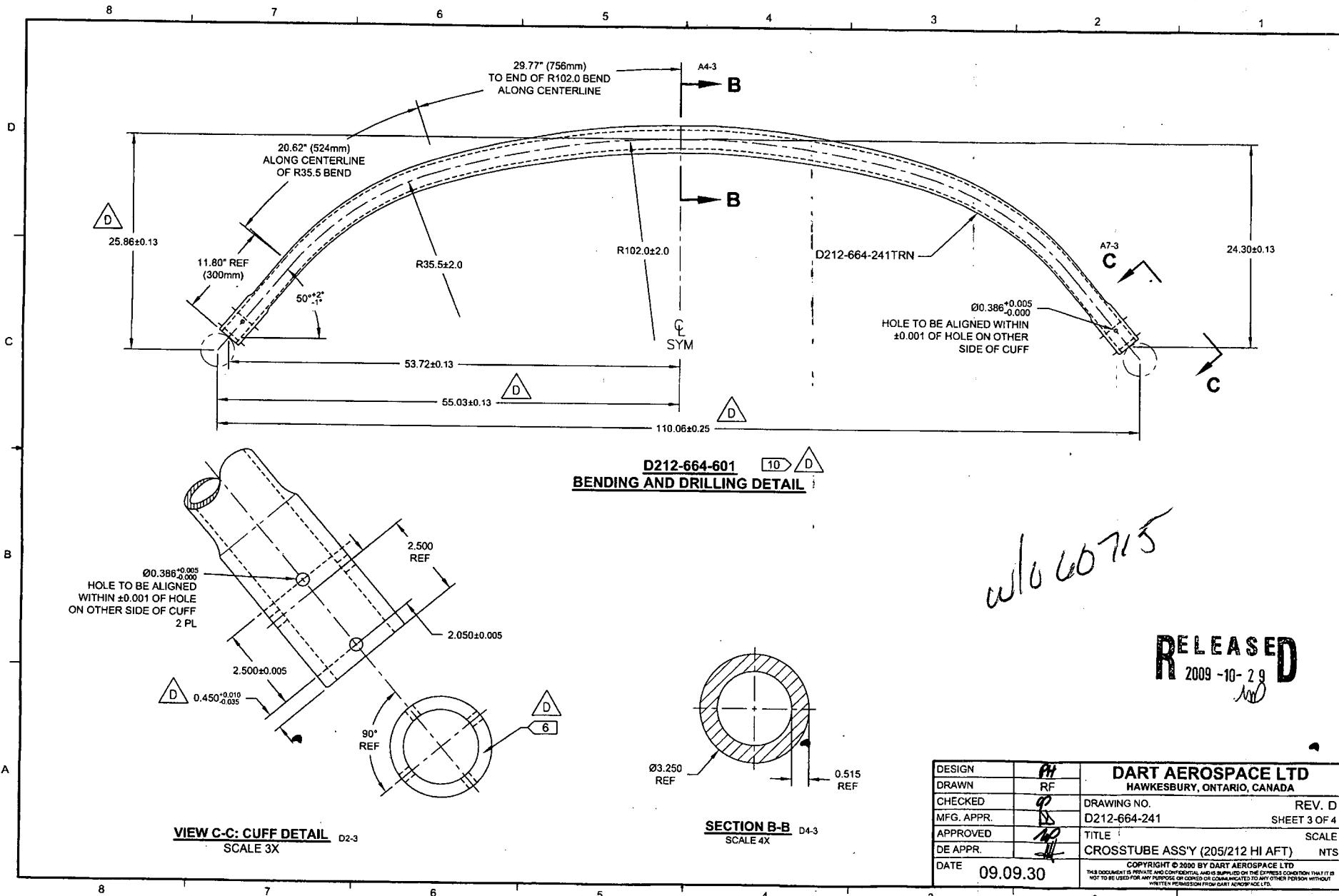
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DRAWN	RF	HAWKESBURY, ONTARIO, CANADA		
CHECKED	<u>99</u>	DRAWING NO.	REV. D	
MFG. APPR.	<u>DS</u>	D212-664-241	SHEET 3 OF 4	
APPROVED	<u>MP</u>	TITLE	SCALE	
DE APPR.	<u> </u>	CROSSTUBE ASSY (205/212 HI AFT)		
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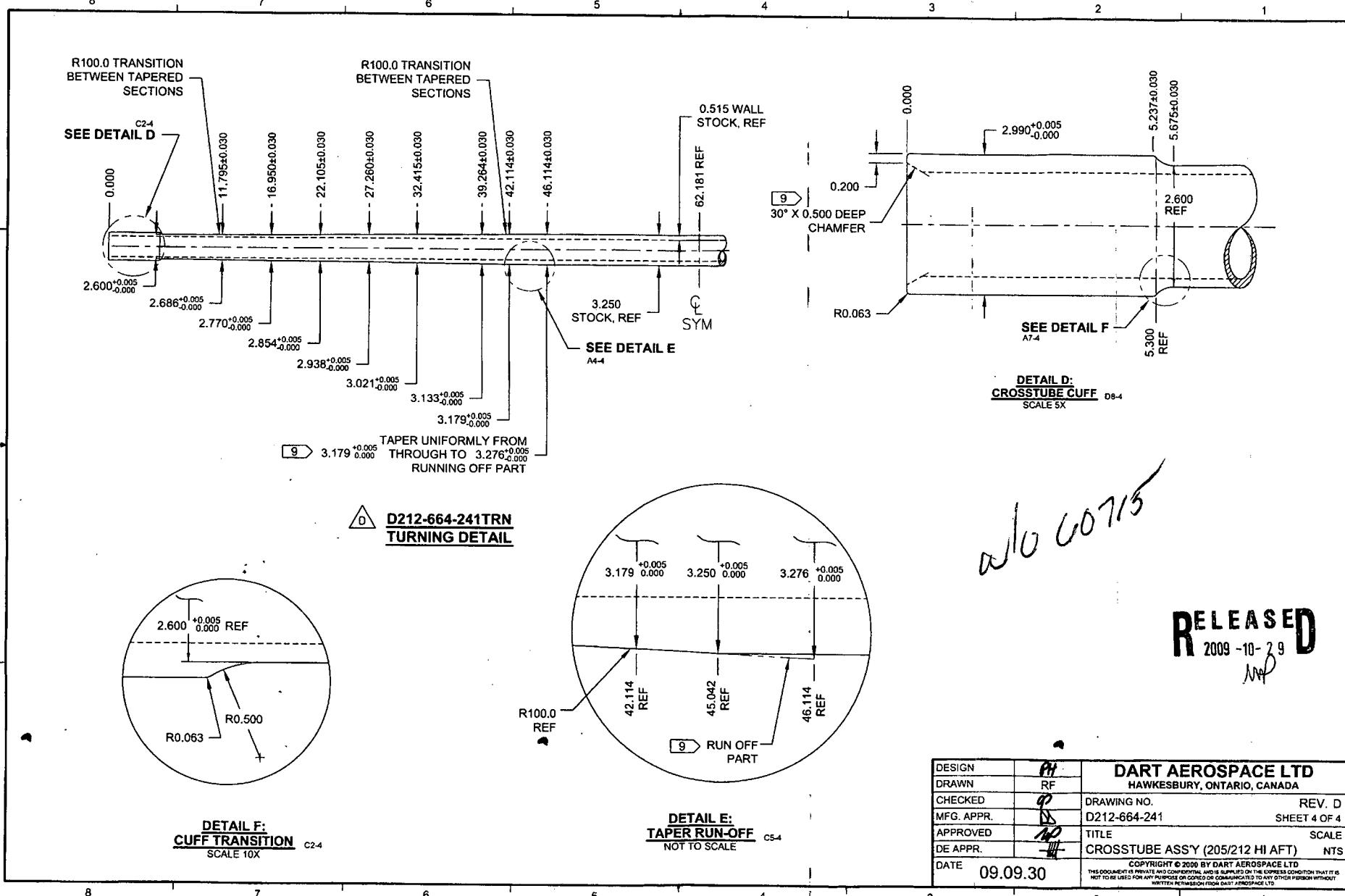
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CHECKED	RF	DRAWING NO. D212-664-241
MFG. APPR.	RF	REV. D
APPROVED	RF	SHEET 4 OF 4
DE APPR.	RF	TITLE CROSSTUBE ASS'Y (205/212 HI AFT) NTS
DATE	09.09.30	SCALE

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